



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/925,798	08/09/2001	Edward C. Douglas	RTN2-019AUS	5368

22494 7590 01/31/2002

DALY, CROWLEY & MOFFORD, LLP  
SUITE 101  
275 TURNPIKE STREET  
CANTON, MA 02021-2310

EXAMINER

CHAMBLISS, ALONZO

ART UNIT

PAPER NUMBER

2827

DATE MAILED: 01/31/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	09/925,798	EDWARD C. DOUGLAS
	Examiner Alonzo Chambliss	Art Unit 2827
<b>-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --</b>		
<b>Period for Reply</b>		
<b>A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.</b>		
<ul style="list-style-type: none"> <li>- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.</li> <li>- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.</li> <li>- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.</li> <li>- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).</li> <li>- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).</li> </ul>		
<b>Status</b>		
1) <input checked="" type="checkbox"/> Responsive to communication(s) filed on <u>09 August 2001</u> .		
2a) <input type="checkbox"/> This action is FINAL.                            2b) <input checked="" type="checkbox"/> This action is non-final.		
3) <input type="checkbox"/> Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under <i>Ex parte Quayle</i> , 1935 C.D. 11, 453 O.G. 213.		
<b>Disposition of Claims</b>		
4) <input checked="" type="checkbox"/> Claim(s) <u>11, 12, 14 and 15</u> is/are pending in the application.		
4a) Of the above claim(s) _____ is/are withdrawn from consideration.		
5) <input type="checkbox"/> Claim(s) _____ is/are allowed.		
6) <input checked="" type="checkbox"/> Claim(s) <u>11, 12, 14 and 15</u> is/are rejected.		
7) <input type="checkbox"/> Claim(s) _____ is/are objected to.		
8) <input type="checkbox"/> Claim(s) _____ are subject to restriction and/or election requirement.		
<b>Application Papers</b>		
9) <input checked="" type="checkbox"/> The specification is objected to by the Examiner.		
10) <input checked="" type="checkbox"/> The drawing(s) filed on <u>11 September 2001</u> is/are: a) <input type="checkbox"/> accepted or b) <input checked="" type="checkbox"/> objected to by the Examiner.		
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).		
11) <input type="checkbox"/> The proposed drawing correction filed on _____ is: a) <input type="checkbox"/> approved b) <input type="checkbox"/> disapproved by the Examiner.		
If approved, corrected drawings are required in reply to this Office action.		
12) <input type="checkbox"/> The oath or declaration is objected to by the Examiner.		
<b>Priority under 35 U.S.C. §§ 119 and 120</b>		
13) <input type="checkbox"/> Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).		
a) <input type="checkbox"/> All b) <input type="checkbox"/> Some * c) <input type="checkbox"/> None of:		
1. <input type="checkbox"/> Certified copies of the priority documents have been received.		
2. <input type="checkbox"/> Certified copies of the priority documents have been received in Application No. _____.		
3. <input type="checkbox"/> Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).		
* See the attached detailed Office action for a list of the certified copies not received.		
14) <input type="checkbox"/> Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).		
a) <input type="checkbox"/> The translation of the foreign language provisional application has been received.		
15) <input type="checkbox"/> Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.		
<b>Attachment(s)</b>		
1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)		
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)		
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>5</u> .		
4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____		
5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)		
6) <input type="checkbox"/> Other: _____		

### **DETAILED ACTION**

1. Claims 1-10, 13, and 16 have been canceled.
2. Pre-amendment A filed on 8/9/01 has been fully considered and made of record in paper no. 4.

#### ***Information Disclosure Statement***

3. The information disclosure statement submitted on 8/9/01 was filed before the mailing date of the non-final rejection on 1/24/02. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the petition is granted and the information disclosure statement is being considered by the examiner.

#### ***Drawings***

4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: Fig. 2B' on page 7 line 26. Also, the drawings are objected to because they include the following reference sign(s) not mentioned in the description: 29, 46, 50, and 57. A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.
5. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference characters " 28 " and " 32 " have both been used to designate B-

stage epoxy and sidewalls. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

***Specification***

6. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. The following title is suggested: " METHOD OF FABRICATING AN INTEGRATED CIRCUIT CHIP PACKAGE ".

***Claim Rejections - 35 USC § 112***

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 11, 12, 14, and 15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

9. In claims 11, 12, 14, and 15, the phrase " adapted to " is vague and indefinite since it is not clear what applicant intended to cover by the recitation " adapted ". Adapted implies that the integrated circuit chip does or does not have to operate at microwave frequencies. Furthermore, the phrase "adapted to " merely states an intended use without structure for making the modification.

10. Claim 11 recites the limitation " the package ", " integrated circuit chip ", " cover ", and " base section " in lines 11-13, respectively. There is insufficient antecedent basis for these limitations in the claim.

11. In claims 11 and 12, the phrase " integrated circuit chip being disposed within a cavity formed by affixed cover and base section " is vague and indefinite since it is not clear where the integrated circuit chip is relative to the base section.

12. Claims 14 and 15 recite the limitation " integrated circuit chip " in lines 15 and 16. There is insufficient antecedent basis for this limitation in the claim.

13. In claim 14, the phrase " aperture dielectric " is vague and indefinite since it is not clear what applicant is referring by aperture dielectric.

14. Claim 15 recites the limitation " dielectric member " in lines 6 and 7. There is insufficient antecedent basis for this limitation in the claim.

### ***Claim Rejections - 35 USC § 103***

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

16. Claims 11, 12, 14, and 15, **insofar as some of them being definite**, are rejected under 35 U.S.C. 103(a) as being unpatentable over Brathwaite et al. (U.S. 5,455,386) in view of Rosenstock (WO 94/17552).

With respect to Claim 11, Brathwaite discloses a lead frame 74 having electrical leads extending outwardly from an inner region of the lead frame 74. A base section 52 is adhesively affixed to the lead frame by adhesive 66 with portion of the electrical leads 84 extending outwardly from the base 52 (see Fig. 2). The base 52 is made of plastic (see col. 1 lines 23-25). Electrical wires 80 are connected between the chip 51 and the electrical leads 84. A cover 54 is affixed to the base section by adhesive 66, wherein the cover 54 has a cavity 78 for accommodating the chip 51 (see Fig. 2).

Although Brathwaite does not explicitly disclose the preamble of claim 1, "adapted to operate at microwave frequencies," this preamble is merely a statement of intended use which does not result in a structural difference between the claimed process and the process of Brathwaite. Furthermore, the process of Brathwaite is inherently capable of being used for the intended use, the statement of intended use does not patentably distinguish the claimed process from the process of Brathwaite.

Brathwaite does not explicitly disclose a lead frame having a plurality of sites, wherein each site has electrical leads affixed to a base section, electrical wires between the chip and the electrical leads, and a cover with a cavity to encapsulate the each chip that is adhesively affixed to the base section. However, with respect to Claim 12, Brathwaite as stated above discloses all of the elements in one lead frame site. To form a plurality of sites each containing electrical leads affixed to a base section, electrical wires between the chip and the electrical leads, and a cover with a cavity to encapsulate the each chip that is adhesively affixed to the base section instead of just one would be obvious to one skill in the art at the time, since in the absent of new and

unexpected results duplicating parts is obvious. The court held that mere duplication of parts has no patentable significance unless a new and unexpected result is produced.

*In re Harza*, 274 F. 2d 669, 124 USPQ 378 (CCPA 1960). Therefore, the duplication of a plurality of sites does not patentably distinguish from the claimed process of Brathwaite.

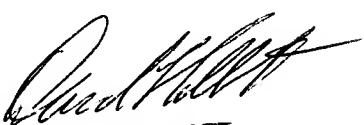
Brathwaite discloses an aperture in the base 52 for registering with the chip 51 (see Fig. 2). Brathwaite fails to disclose electrically connecting a conductive member (i.e. inner portions of a lead frame) to base section to a bottom ground plane conductor of the chip with an dielectric material between the lead frame and the conductive member. However, with respect to Claims 14 and 15, Rosenstock discloses electrically connecting a conductive member (i.e. base plate 71) to base section 65 to a bottom ground plane conductor of the chip 70 with an dielectric material 74 is between the lead frame and the conductive member 71 (see English abstract and Figs. 3a-3c). therefore, it would have been obvious to use the ground plane conductor of the chip with an dielectric material between the lead frame and the conductive member with Brathwaite, since the package would offer a low inductance ground path, good thermal characteristics , and low parasitic inductance and capacitance as taught by Rosenstock.

### ***Conclusion***

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. It is cited primarily to show processes of packaging a

semiconductor device, which are similar to the process of the instant invention.

Any inquiry concerning the communication or earlier communications from the examiner should be directed to Alonzo Chambliss whose telephone number is (703) 306-9143. The fax phone number for this Group is (703) 308-7722 or 7724. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-7956.



DAVID L. TALBOTT  
PRIMARY EXAMINER  
ART UNIT 355  
2827



AC/January 24, 2002